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yellow ground with vermilion pattern, squares faced with blue, flowers in squares pale violet with light quatrefoil and gold centre; the great four-lobed leaves green with red stems and small blue flowers faced with fine blue lines.

Plate 23. — Paper Patterns, designed by W. Toifel, Archt. in Schœnfeld.

These Hangings are printed in one colour with horizontal gold hatchings.

Plate 24. — Majolica Pavement from S. Petronio in Bologna.

Our plate shows some portion of the Pavement of a side chapel of S. Petronio in Bologna (1487). Out of the great number of Majolica Tiles of which it is composed, we reproduce four of the best patterns which, in their free arrangement, form one of the most splendid and brilliantly coloured pavements of its kind.

But few are the specimens which the Renaissance period has bequeathed to us, Mediæval Art having almost exhausted itself in the production of richly coloured glazed tiles.

VARIOUS.

Artificial Ivory.

Two parts of caoutchouc are dissolved in thirty-six parts of chloroform, and the solution is saturated with pure gaseous ammonia. The chloroform is then distilled off at a temperature of 85° C. The residue is mixed with phosphate of lime or carbonate of zinc, pressed into moulds and dried. When phosphate of lime is used the product possesses to a considerable degree the nature and composition of ivory.

T. G., in *L'Union Pharmaceutique*.

Silicate Paints.

These non-poisonous paints, manufactured by the Silicate Paint Company, of Liverpool and London, do not owe their existence either to accidental discovery or to a "happy thought", but are the results of long-continued research and experiment, to produce pigments free from the well-known objections to ordinary paints. Silica was selected as the base because, when obtained absolutely pure, it has no chemical action whatever on iron or any of the metals; nor can it be destroyed by fire or by acids. Extreme cold also has no effect on it: in fact, it is an indestructible product, incapable of injury to the most delicate pigments with which it may be combined. The silica used by the Silicate Paint Company is obtained from a natural deposit of almost pure silex in North Wales. It is found in a basin of volcanic origin, which forms the bed of a small lake, and is doubtless the product of centuries of natural levigation. When dried it is found to be in the condition of a powder, finer than it would be possible to reduce it to by mechanical means. The first great difficulty to overcome, viz., the production of a non-poisonous white paint of good body, of course necessitated the discarding of white lead and zinc oxide. The new silicate white, a patented preparation of zinc, has all the good qualities of white lead without its attendant bad ones. It resists foul air, and retains its whiteness and opacity under all conditions, will withstand 500° of heat, has a covering power equal to the best lead, and, besides being non-poisonous, has no chemical action whatever on the metals. Of the other colours it will be enough to say they are one and all non-poisonous, and contain neither lead, antimony, arsenic, nor copper, in any form. The only disadvantage from which these paints suffer, in common with the ordinary painting colours, is the inability, as yet, to discover a vehicle for them to supersede linseed oil. A step in this direction has doubtless been made in the production of the petrifying liquid, though this is not applicable in all cases. It is certainly to be regretted that a more enduring medium cannot be found, as the silicate pigments will withstand, uninjured, a degree of heat that would utterly destroy the oil with which they are mixed.

The question of the cost of the silicate paint, as compared with white lead, being in many cases the all-important one, it is satisfactory to know that, notwithstanding the many advantages of the former, they are found in working to be from 10 to 15 per cent. cheaper. Though slightly dearer in the first cost, they have nearly double the bulk of white lead, and, weight for weight, will cover almost twice the space. Being cheap, non-poisonous, permanent of colour, of good body, damp-proof, all but indestructible, and suitable alike for delicate interior decoration or the most exposed out-door wear these paints surely supply the painters' "desideratum".

Another speciality of the Silicate Paint Company is the petrifying liquid, for the cure of damp walls and the preservation of stone, brick, plaster, cement, &c., from decay. This preparation (also called the washable distemper) is a water paint, manufactured in two distinct forms, viz., as a transparent liquid, for indurating soft stone or brick when it is desirable to render it damp-proof without altering its character or appearance; and as a paste, in all colours. In the latter form, — apart from its damp-resisting qualities, — it may be used in the place of common distemper, for the decoration of bedrooms, corridors, staircases, passages, basements, kitchens, borders of rooms, &c., presenting an appearance almost equal to paint, and, like paint, admitting of being thoroughly cleansed by washing; and, as it is also unaffected by disinfectants, the value of the petrifying liquid from a sanitary point of view cannot be over-estimated.

The enamelling paint, which renders varnishing unnecessary, is the last of the decorative preparations manufactured by the Silicate Paint Company, and is a capital paint for superior interior work of all kinds. As its name implies, it is a paint drying speedily with a hard, highly glossy surface, and, like the petrifying liquid and silicate paint, is admirably suited for damp walls. It will thoroughly prevent the penetration of moisture, however copious, when applied to the walls or foundations of dwelling-houses, railway arches, bridges, tunnels, viaducts, and other structures, and is invaluable for porous tile-roofs. Two coats of it are equal in effect to two coats of ordinary paint and two coats of varnish, while on clean ironwork one coat is, in most cases, sufficient. Recent experiment has also demonstrated that the enamel is not affected by chloride of sodium (common salt). This has resulted in the use of the enamel for the protection of the iron ships engaged in the salt-carrying trade, which had always previously to be cemented internally, at great cost, with loss of space and increase of dead weight.

The Builder.